CLAIMS

I Claim:

1. A method for performing an alignment self check of a wavelength meter comprising:

(a) placing a reference signal into a reference signal path of the wavelength meter;

(b) placing the reference signal into an unknown signal path of the wavelength meter; and,

(c) detecting whether after traveling through the unknown signal path, the reference signal has a same period as after traveling through the reference signal path.

2. A method as in claim 1 wherein (c) includes:

sampling values of the reference signal after traveling through the unknown signal path, based on frequency of the reference signal after traveling through the reference signal path to determine whether the sampled values are at constant amplitude.

3. A method as in claim 1 additionally comprising:

(d) notifying a user of the wavelength meter when after traveling through the unknown signal path, the reference signal has a different period than after traveling through the reference signal path.

4. A method as in claim 1 additionally comprising:

(d) performing realignment of the wavelength meter when after traveling through the unknown signal path, the reference signal has a different period than after traveling through the reference signal path.

5. A method as in claim 1 wherein the wavelength meter includes a Michelson interferometer.

6. A method as in claim 1 additionally comprising:

translating a mirror in both the unknown signal path and in the reference signal path while detecting whether after traveling through the unknown signal path, the reference signal has the same period as after traveling through the reference signal path.

7. A wavelength meter comprising:

a reference signal path;

an unknown signal path;

a detector that detects signal activity on the reference signal path and signal activity on the unknown signal path; and,

an analyzer that determines whether, after traveling through the unknown signal path, a reference signal has a same period as after traveling through the reference signal path.

8. A wavelength meter as in claim 7 wherein the analyzer checks values of the reference signal sampled by the detector after traveling through the unknown signal path, based on frequency of the reference signal after traveling through the reference signal path, to determine whether the sampled values are at constant amplitude.

9. A wavelength meter as in claim 7 wherein the wavelength meter notifies a user of the wavelength meter when after traveling through the unknown signal path, the reference signal has a different period than after traveling through the reference signal path.

10. A wavelength meter as in claim 7 wherein the wavelength meter performs realignment of the wavelength meter when after traveling through the unknown signal path, the reference signal has a different period than after traveling through the reference signal path.

11. A wavelength meter as in claim 7 wherein the wavelength meter includes a Michelson interferometer.

12. A wavelength meter as in claim 7 wherein the analyzer checks values of the reference signal sampled by the detector to determine whether the sampled values are at constant amplitude.

13. A wavelength meter as in claim 7 wherein the wavelength meter includes a mirror that is translated while the detector detects signal activity on the reference signal path and signal activity on the unknown signal path.

14. A wavelength meter comprising:

reference signal path means for guiding a signal;

unknown signal path means for guiding a signal;

detector means for detecting signal activity on the reference signal path means and signal activity on the unknown signal path means; and,

analyzer means for determining whether, after traveling through the unknown signal path means, a reference signal has a same period as after traveling through the reference signal path means.

15. A wavelength meter as in claim 14 wherein the analyzer means checks values of the reference signal sampled by the detector means after traveling through the unknown signal path means, based on frequency of the reference signal after traveling through the reference signal path means, to determine whether the sampled values are at constant amplitude.

16. A wavelength meter as in claim 14 wherein the wavelength meter notifies a user of the wavelength meter when after traveling through the unknown signal path means, the reference signal has a different period than after traveling through the reference signal path means.

17. A wavelength meter as in claim 14 wherein the wavelength meter performs realignment of the wavelength meter when after traveling through the unknown signal path means, the reference signal has a different period than after traveling through the reference signal path means.

18. A wavelength meter as in claim 14 wherein the wavelength meter includes a Michelson interferometer.

19. A wavelength meter as in claim 14 wherein the analyzer means is also for checking values of the reference signal sampled by the detector means to determine whether the sampled values are at constant amplitude.

20. A wavelength meter as in claim 14 wherein the wavelength meter includes a mirror that is translated while the detector means detects signal activity on the reference signal path means and signal activity on the unknown signal path means.